



Determination 2008/106

The refusal to issue a building consent in respect of a carport at 32 Alexander Avenue, Papatoetoe, Auckland (to be read in conjunction with determination 2007/138)

Applicant: T P Field Development Ltd, acting through an agent (“the applicant”)
The authority: Manukau City Council (“the authority”) carrying out its duties and functions as a territorial authority or building consent authority

1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004 (“the Act”) made under due authorisation by me, John Gardiner, Manager Determinations, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department. The matter for determination concerns the refusal of the authority to issue a building consent.
- 1.2 The question to be answered in relation to this matter is whether the consent documentation submitted to the authority for the rectification of the identified faults is sufficient to ensure that code compliance will be achieved.
- 1.3 Certain building matters were described in an earlier determination concerning the same house, Determination 2007/138 (“the first determination”). That determination decided that while certain elements of the building did not comply with Clauses B1 and B2 of the Building Code, once certain identified faults were rectified the building would be code-compliant. The determination also noted that the second of the two notices to fix should be withdrawn.

2. Sequence of events

- 2.1 On 19 December 2007, the Department issued the first determination, which confirmed the authority’s decision that the building did not comply with the Building Code.

2.2 Paragraph 6.2.1 of the first determination stated:

Taking into account the expert's report, I am satisfied that the current performance of the elements installed on this carport is inadequate in the following respects:

- The condition of the wall and roof cladding (burrs, rust and the onset of paint failure).
- The excessive knots in the rafters.
- The fixing of every second rafter to the ribbon board.
- The un-galvanised fixings to the bottom plates and the roof ribbon plates.
- The inadequately treated timber to the carport opening.

2.3 Paragraph 8.3 of the first determination stated:

Because the faults identified with the carport occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 6.2.1 will result in the building being in compliance with clauses B1 and B2.

2.4 The authority subsequently issued a third notice to fix (No 08/017) dated 13 February 2008, which provided a list of defects to be remedied. The notice to fix included the defects identified in paragraph 6.2.1 of the first determination, together with an additional item concerning the bolting of a ribbon board to the brickwork of the adjoining house.

2.5 The applicant's agent wrote to the authority on 4 April 2008, attaching plans and an engineer's report. The agent listed the following items that would achieve code-compliance of the building.

1. Roof rust is to be steel brushed and painted with Wattle rust guard paint.
2. Knots in rafters to be fixed to Engineer's recommendation.
3. Every second rafter fixing (joist hanger) nailing to be completed.
4. New M12 Anchor bolts with 50 x 50 washer fixing bottom plate to concrete floor.
5. Remove 90 x 45 Boric treated timber from front opening to be replaced with 95 x 45 x H3.1 timber.

The letter also noted that part of the ribbon board fixing to the brick veneer had been inspected by an authority officer and the Department's expert and it had been agreed that it complied with "*The Brick Book*"¹.

2.6 The first determination did not specifically accept the adequacy of the fixing of the ribbon board to the brick veneer other than with respect to Clause B2 Durability.

2.7 I note that "*The Brick Book*" is not referenced as a Compliance Document. However, Figure 64 of "*The Brick Book*" shows a detail used to attach lightweight structures to brick veneer, but limits this to structures 20m² in area. The carport is 27m² in area. The adequacy of the fixing of the ribbon board to the brick veneer needs to be verified by the engineer.

2.8 The engineer's report was dated 31 March and noted that the rafters containing knots could be strengthened by fixing proprietary nail-on plates to both sides of each knot. A sketch showing the locations of the knots was attached to the report.

¹ *The Brick Book, A guide to designing and building in brick*, John Oliver, Lifetime Books 2000

- 2.9 The applicant's agent forwarded an application for a building consent that was dated 3 April 2008. Following a request from the authority for further information, the agent responded in a letter dated 28 April 2008. The agent noted that the consent application only related to the 4 (*sic*) items listed in the first determination as requiring rectification. The agent was prepared to provide any further information that the authority might require regarding those items.
- 2.10 The application for this determination was received on 26 May 2008.

3. The submissions

- 3.1 In a covering letter dated 20 May 2008, the applicant's agent:
- noted the conclusions reached in the previous determination and that the authority had queried the ribbon plate fixings
 - requested that the authority withdraw the two original notices to fix and the new notice No 08/017 and issue a new notice to fix that only contained the 4 rectification items listed in the previous determination.
- 3.2 The applicant forwarded copies of:
- two plans
 - the third notice to fix No 08/017
 - the previous determination
 - the engineer's report of 31 March 2008
 - the correspondence with the authority.
- 3.3 The authority made a submission in a letter to the Department dated 27 May 2008. The authority stated that:
- the applicant had not provided sufficient information for the consent application to be accepted
 - it did not have up to date as-built drawings for the building
 - a consent that showed only "partial works (4 items)" would not provide sufficient records for future purchasers or council officers required to review work relating to these items.

4. The draft determination

- 4.1 A draft determination was sent to the parties for comment on 21 July 2008, which the authority accepted without comment.
- 4.2 The applicant accepted the determination subject to comment and enclosed an engineer's report dated 27 July 2008 which detailed the design of the matters. The Department sought additional information from the applicant on 26 September, which was received on 4 November 2008.

4.3 The engineer's report stated:

1. The wind zone for the site is low to medium wind zone. Wind zone is not a critical factor in the carport roof stringer design.
2. It is standard engineering practice to use the average E value to calculate timber deflection for normal timber design unless there is a special requirement to limit deflection to a critical factor.
3. All coach screws used for the wall end and door stud connections are to be min. 90mm long galvanised M16 bolts with 50 x 50mm square washers.

5. Discussion

- 5.1 As set out in paragraph 3.3, the authority considers that it does not have sufficient information to consider whether a building consent should be issued for the building.
- 5.2 The 5 rectification items listed in the previous determination are as set out in paragraph 2.2. I comment at this point that the applicant's agent in the submission dated 28 April 2008 refers to 4 items, as does the authority in its submission, and in this respect, I consider that they are both in error. The authority has listed the 5 items in its latest notice to fix, together with an additional requirement concerning the attachment of the ribbon plate to the adjoining house brickwork.
- 5.3 I note that the fourth rectification item included both the bottom plate and the ribbon plate fixings. However, the applicant has only addressed the bottom plate issue. In respect of the ribbon plate fixing, the applicant's agent refers to an acceptance by the Department's expert. However, from my reading of the expert's report provided for the previous determination I cannot confirm any such approval.
- 5.4 I note that the fixings referred to by the Department's expert were with respect to the plated fixings securing galvanised angles located immediately below the ribbon board, and not to the galvanised fixings located in the ribbon board itself.
- 5.5 With regard to all the rectification items other than the ribbon plate fixing, I do not share the authority's concerns as to a lack of detail. The items of themselves are of a very minor nature, an engineer's report verifies the fixing of the knots in the rafters and I consider that the drawings presented are adequate for their purpose. Accordingly, I am of the opinion that the authority could well have decided these matters on its own behalf, without the necessity for them to be subject to this determination.
- 5.6 This leaves the matter of the ribbon plate fixing. Based on the technical advice that I have received within the Department, I consider that the manner in which the applicant proposed to secure the ribbon plate to the brick veneer does not comply with the requirements of the Clause B1.
- 5.7 The applicant has now clarified the fixing details and confirmed that 2xM16 coach bolts with 50x50mm square washers will be installed to fix a proprietary angle to the wall at the two corners of the carport. I accept that the proposed detail lead to the ribbon plate fixing being code-compliant.

5.8 I note that the engineer's report described in paragraph 4.3 refers to the use of the "average E" value to calculate the deflection in the timber beam. However, I wish to point out that paragraph 2.4.2.3(a) of NZS 3603² requires the use of the "lower bound" value of E when calculating the deflection in a single member, and not the average value. However, in this instance the error does not affect the compliance of the timber beam in question.

6. What is to be done now?

6.1 The authority is entitled to require the applicant to clearly demonstrate how compliance is to be achieved. To this end the applicant should submit amended documentation to the authority for approval.

6.2 Once the authority is satisfied that the proposed building work will comply with the Building Code, it should issue a building consent that covers all the items it has detailed on its notice to fix No. 08/017.

7. The decision

7.1 In accordance with section 188 of the Act, I hereby confirm the authority's decision not to issue a building consent.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 27 November 2008.

John Gardiner
Manager Determinations

² NZS 3603: 1993 Timber structures standard Amend: 1, 2, 4 (Applies to building work consented on or after 1 April 2007)